

INTEGRATED CIRCUIT DEVICES INCLUDING A RESISTOR PATTERN AND  
METHODS FOR MANUFACTURING THE SAME

ABSTRACT OF THE DISCLOSURE

Methods are provided for forming an integrated circuit device including a resistor pattern having a desired resistance value. A low resistive layer is formed on an integrated circuit substrate. An insulating layer is formed on the low resistive layer opposite the integrated circuit substrate. A high resistive layer, which may have a specific resistance of at least about a hundred  $\mu\Omega\cdot\text{cm}$ , is formed on the insulating layer opposite the low resistive layer. The low resistive layer, the insulating layer and the high resistive layer define the resistor pattern in a region of the integrated circuit substrate. Integrated circuit devices including resistor patterns as provided by the methods are also provided and methods for forming metal contacts to the resistor pattern are also provided.

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